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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,416	11/16/2001	Martin Thomas Miller	455610-2420	8540
20999	7590	04/18/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			WEST, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2857	
DATE MAILED: 04/18/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,416

Applicant(s)

MILLER ET AL.

Examiner

Jeffrey R. West

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/25/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 22 is objected to because of the following informalities:

In claim 22, line 8, to avoid problems of antecedent basis, "the manipulation" should be ---manipulation---.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is considered to be vague and indefinite because it recites "receiving one or more instructions; defining a set of instructions to be associated with a plurality of processing elements based upon said one or more instructions". In this recitation, and in light of the specification, it is unclear whether the "set of instructions" are the same as the "one or more instructions" or whether the "set of instructions" and the "one or more instructions" refer to different instructions.

Claims 8-13 are rejected under 35 U.S.C. 112, second paragraph, because they incorporate the lack of clarity present in parent claim 7.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 14, 22, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,920,479 to Sojoodi et al.

As per claims 1, 14, 22, and 15, Sojoodi discloses a method of configuring and performing processing a digital oscilloscope (column 1, lines 50-67) comprising the steps of receiving one or more input parameters (column 19, lines 48-59), defining a set of operating instructions (column 15, lines 11-15, column 17, lines 30-54, and column 25, lines 46-56) to be associated with a plurality of processing elements for performing a discrete function based upon said one or more input parameters (column 10, lines 59-64), assigning a graphical representation for each of the plurality of defined processing elements (column 13, lines 51-67), and connecting a plurality of said graphical representatives, in accordance with manipulation of the graphical representatives, corresponding to a plurality of the defined processing elements to define and graphically depict a processing web (column 17, line 55 to column 18, line 2), wherein the plurality of processing elements are controlled to manage and allow the proper flow of data through the plurality of processing elements (column 18, lines 3-32).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6, 14-16, 18-27, 35-37, and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,809,189 to Batson in view of U.S. Patent No. 5,920,479 to Sojoodi et al.

As per claims 1, 14, 22, and 35, Batson discloses a method for configuring and performing processing in a digital oscilloscope (abstract) comprising the steps of receiving one or more input parameters/instructions (column 4, lines 14-18 and column 18, lines 53-58), defining a plurality of connected discrete processing elements based upon the received input parameters/instructions, and connecting the plurality of processing elements to define a processing web controlling the flow of information (column 5, lines 40-45 and column 18, line 61 to column 19, line 20).

As per claims 2-5, 15, 16, 23-26, 36, and 37, Batson also discloses updating at least two of the processing elements from an idle state using a processing control object (column 19, lines 53-54), wherein the updating of the processing elements are at different speeds with one of the processing elements operating a higher acquisition speed and another operating at a lower display speed (column 20, lines 13-30)

As per claims 6 and 27, Batson also discloses that the element operating at a higher acquisition/processing operation speed is cumulative (analyzes a cumulative collection of data) (column 22, lines 57-68), while the element operating at a lower display speed is not cumulative (i.e. receives the data in sequence) (column 26, lines 11-15).

As per claims 19, 20, 40 and 41, Batson discloses that when updating the processing elements, one of the processing elements requests desired data from an upstream source when data is requested from it by a downstream processing element (i.e. the display controller requests data from waveform memory "16" through memory management unit "14") (column 5, lines 9-29 and Figure 1), wherein the processing element is a rendering processing object (i.e. display controller), and there are no buffers present between the plurality of processing elements (Figure 1).

As per claims 18, 21, 39, and 42, Batson also discloses updating one or more of the processing elements when one of the processing elements is redefined (column 19, lines 16-60) and when new data is available (column 19, lines 10-12).

As noted above, the invention of Batson teaches many of the features of the claimed invention and while the invention of Batson does teach defining a processing web in an oscilloscope, Batson does not provide a corresponding means for defining the processing web graphically.

Sojoodi discloses a method of configuring and performing processing on a digital oscilloscope (column 1, lines 50-67) comprising the steps of receiving one or more

input parameters (column 19, lines 48-59), defining a set of operating instructions (column 15, lines 11-15, column 17, lines 30-54, and column 25, lines 46-56) to be associated with a plurality of processing elements for performing a discrete function based upon said one or more input parameters (column 10, lines 59-64), assigning a graphical representation for each of the plurality of defined processing elements (column 13, lines 51-67), and connecting a plurality of said graphical representatives, in accordance with manipulation of the graphical representatives, corresponding to a plurality of the defined processing elements to define and graphically depict a processing web (column 17, line 55 to column 18, line 2), wherein the plurality of processing elements are controlled to manage the proper flow of data through the plurality of processing elements (column 18, lines 3-32).

It would have been obvious to one having ordinary skill in the art to modify the invention of Batson to include a corresponding means for defining the processing web graphically, as taught by Sojoodi, because, as suggested by Sojoodi, the combination would have simplified the use of an oscilloscope, such as the oscilloscope of Batson, by presenting control of the instrumentation to the user in an organized and simplified graphical user interface (column 2, lines 4-20).

8. Claims 7-9, 11, 12, 17, 28-30, 32, 33, and 38, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Batson in view of Sojoodi and further in view of U.S. Patent No. 5,668,469 to Natori et al.

As noted above, the invention of Batson and Sojoodi teaches many of the features of the claimed invention, and while the invention of Batson and Sojoodi does disclose synchronizing communication between the microprocessor and the memory control unit (Batson, column 7, lines 63-68), Batson does not specifically disclose synchronizing the display controlling processor devices.

Natori teaches a digital oscilloscope using a color plane display device and data display method comprising a plurality of processing elements, including acquisition devices and display devices, (Figure 1), wherein the data read out of a display memory using a display controller is in synchronization with the other processing elements (abstract and column 4, line 42 to column 5, line 14).

It would have been obvious to one having ordinary skill in the art to modify the invention of Batson and Sojoodi to include synchronizing the display controlling processor devices, as taught by Natori, because it is common in the art to synchronize components to insure that data output by a first device is received by a second downstream device at the same rate to insure accurate operation and Natori suggests that the combination would have provided correct timing for desired processing and increased resolution (column 4, lines 42-58).

9. Claims 10, 13, 31, and 34, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Batson in view of Sojoodi and Natori and further in view of U.S. Patent No. 5,736,971 to Shirai.

As noted above, Batson in combination with Sojoodi and Natori teaches many of the features of the claimed invention, and while the invention of Batson does disclose updating processing elements based upon a request, Batson does not specify that the processing element requests the update upon activation of an update pin, wherein the processing element receives at least one input on an input pin and produces at least zero outputs on an output pin.

Shirai teaches a method and apparatus for increasing resolution of a computer graphics display including a display controller for connection to a CRT (column 5, lines 12-15) that receives data inputs through at least one input pin (i.e. pin connector CN1) (column 5, lines 34-45), produces outputs through at least one output pin (i.e. pin connectors CN2-CN4) (column 5, lines 4-6), and receives controlling instructions through a processor at a pin (i.e. pin connector CN1) (column 4, lines 43-49).

It would have been obvious to one having ordinary skill in the art to modify the invention of Batson, Sojoodi, and Natori to include specifying that the processing element requests the update upon activation of an update pin, wherein the processing element receives at least one input on an input pin and produces at least zero outputs on an output pin, as taught by Shirai, because the invention of Batson, Sojoodi, and Natori does teach the application of the processing device that receives data, outputs data, and receives controller signals from a processor for update indications, but does not give the specifics as to how the data is received (i.e. through pins), and Shirai suggests a corresponding structure applicable to carry out

the invention of Batson, Sojoodi, and Natori that further allows synchronizing adjustments to improve processing (column 2, lines 45-50).

Response to Arguments

10. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.

The following arguments, however, are noted:

Applicant first argues that "all of the independent claims point out that the processing elements are associated with a set of user-defined instructions, whereby the user has the capability of defining the processing, as opposed to the prior art limitation whereby the user can only select from a pre-established set of processing functions. The references to Sojoodi and Batson are similar in that they are typical of the prior art limitation just noted – they limit the user to only the pre-established set of processing functions. Sojoodi and Batson do not permit the user to use his own user-defined instructions to thereby select processing elements. Stated otherwise, the present invention, as defined by the independent claims, is far more flexible than the Sojoodi and Batson instruments. As a result of Applicants' claimed invention, the user himself may define different processing functions and then control the overall processing on a waveform in accordance with a graphical representation of a desired data processing flow. This is not shown or suggested by Sojoodi or Batson; and the addition of Natori fails to cure this deficiency of Sojoodi and Batson."

The Examiner asserts that independent claims 1, 7, 22, and 28, only require "defining a set of instructions to be associated with a plurality of processing elements based upon said one or more input parameters", "defining a set of instructions to be associated with a plurality of processing elements based upon said one or more instructions", "a set of instructions associated with a plurality of processing elements, said instructions being defined based upon one or more received input parameters", and "a plurality of processing elements defined in accordance with one or more received instructions", respectively. These limitations do not specify that the user write instructions for the processing elements to carry out, but only specify that, based upon input, a set of instructions to be associated with the processing elements is defined. Therefore, the teachings of Sojoodi for receiving input parameters from the user that are used to define the processing elements in terms sets of instructions, meets the invention as claimed.

Further, the Examiner asserts that claims 14 and 35 recite, "defining a set of instructions to be associated with a plurality of processing elements" and "a set of instructions associated with a plurality of processing elements", respectively. These limitations do not require any user-intervention, but only specify that the processing elements have instructions associated with them.

Conclusion

11.. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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U.S. Patent No. 6,570, 592 to Sajdak et al. teaches a system and method for specifying trigger condition of a signal measurement system using graphical elements on a graphical user interface.

U.S. Patent No. 5,953,009 to Alexander teaches a graphical system and method for invoking measurements in a signal measurement system.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

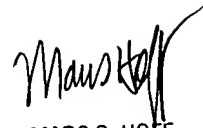
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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jrw

April 11, 2005

A handwritten signature in black ink, appearing to read "Maus Hoff", with a stylized flourish extending from the end.

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800